CDP-XA2ES

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

Model Name Using Similar Mechanism	CDP-461
CD Mechanism Type	CDM25B-5BD20
Base Unit Type	BU-5BD20
Optical Pick-up Type	KSS-213B/K-N

SPECIFICATIONS

Compact disc player

Laser	Semiconductor laser
Wavelength	780 – 790 nm
Frequency response	2 Hz to 20 kHz ± 0.3 dB
Dynamic range	More than 100 dB
Harmonic distortion	Less than 0.0023%

Outputs

	Jack type	Maximum output level	Load impedance
LINE OUT (FIXED)	Phono jacks	2 V (at 50 kilohms)	Over 10 kilohms
LINE OUT (VARIABLE)	Phono jacks	2 V (at 50 kilohms)	Over 50 kilohms
DIGITAL OUT (OPTICAL)	Optical output connector	–18 dBm	Wave length: 660 nm
PHONES	Stereo phone jack	28 mW	32 ohms

General

Power requirements

Where purchased	Power requirements
Europe	220 V – 230 V AC, 50/60 Hz
Australia	240 V AC, 50 Hz
Other countries	110 V – 120 V or 220 V – 240 V AC, adjustable, 50/60 Hz

Power consumption	17 W
Dimensions (approx.) (w/h/d)	430 × 125 × 345 mm (17 × 5 × 13 5/8 in.) incl. projecting parts
Mass (approx.)	6.0 kg (13 lbs 4 oz)

Supplied accessories

Audio cord (2 phono plugs – 2 phono plugs) (1)
Remote commander (remote) (1)
Sony SUM-3 (NS) batteries (2)

Design and specifications are subject to change without notice.

使用時は添付資料も参照のこと
Refer to the additional documents.

COMPACT DISC PLAYER

SONY®

The laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside of the unit.

CAUTION	:	INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.
ADVARSEL:		USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO!	:	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING	:	LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVERSEL:		USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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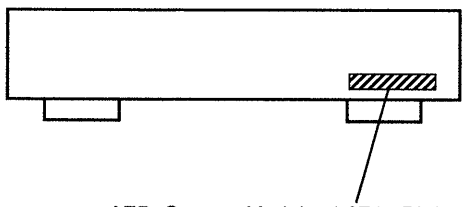
MODEL IDENTIFICATION

— BACK PANEL —



AEP, German Model : 4-974-256-0□
E Model : 4-974-256-2□
UK Model : 4-974-256-3□
Australian Model : 4-974-256-4□

SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

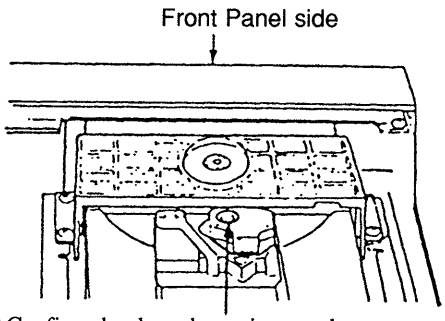
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repain parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

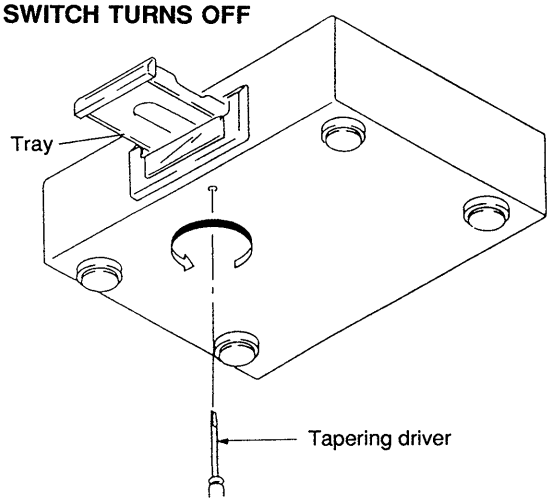
LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.



❶ Confirm that laser beam is spread.
❷ Up and down motion of the objective lens. (3 times)

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



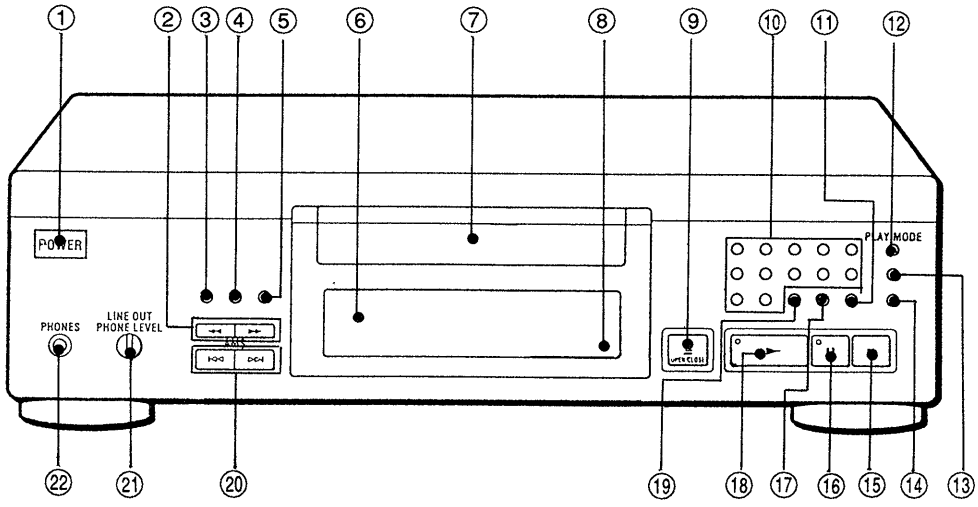
Insert a tapering driver into the aperture of the unit bottom, and turn in the direction of arrow.

* To close the disc tray, turn the driver in the reverse direction.

*1 Differences of circuits by changing the system control

IC801	
FORMER	IC801 ①pin — GND Line
NEW	IC801 ①pin — +5V Line

SECTION 1
GENERAL



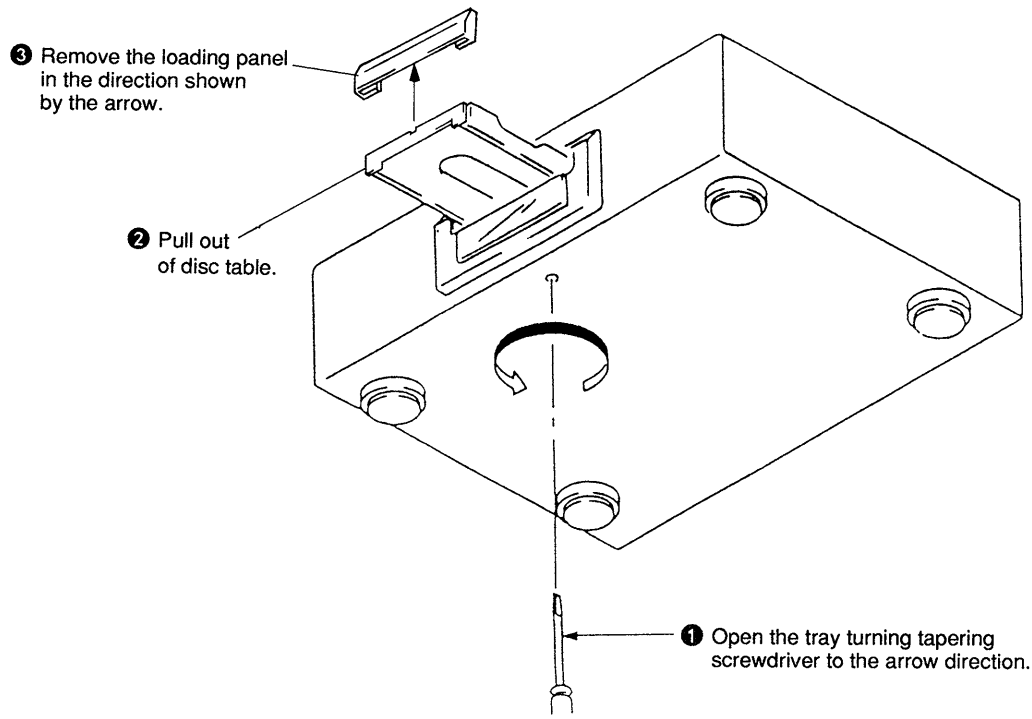
① POWER switch
② ◄◄/►► buttons
③ AUTO SPACE button
④ PEAK SEARCH button
⑤ TIME button
⑥ Display window
⑦ Disc tray
⑧ Remote sensor
⑨ ⏏ OPEN/CLOSE
⑩ Numeric buttons
⑪ >12
⑫ PLAY MODE button
⑬ REPEAT button
⑭ EDIT/TIME FADE button
⑮ ■ (stop) button
⑯ ❚❚ (pause) button
⑰ CLEAR button
⑱ ► (play) button
⑲ CHECK button
⑳ ⏮/⏭ AMS* buttons
㉑ LINE OUT/PHONE LEVEL control
㉒ PHONES jack

* AMS is the addreviation of
Automatic Music Sensor.

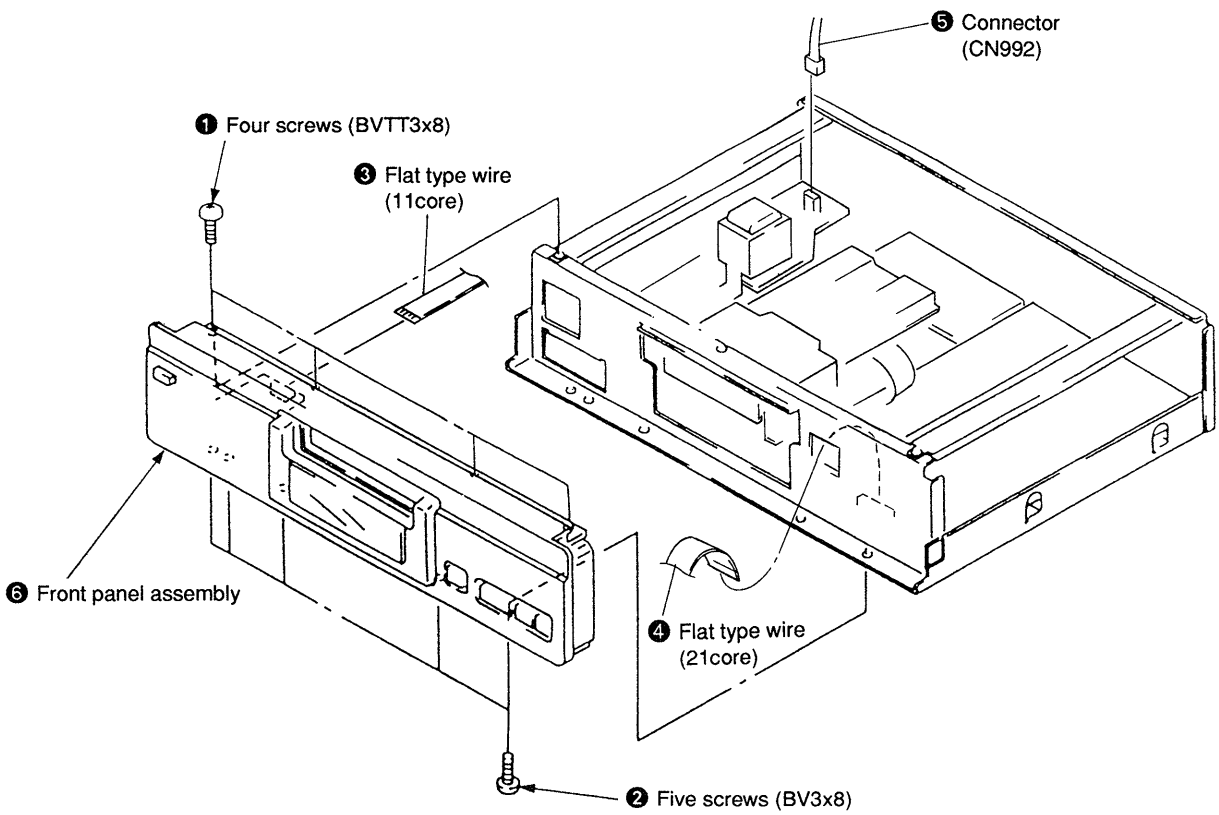
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

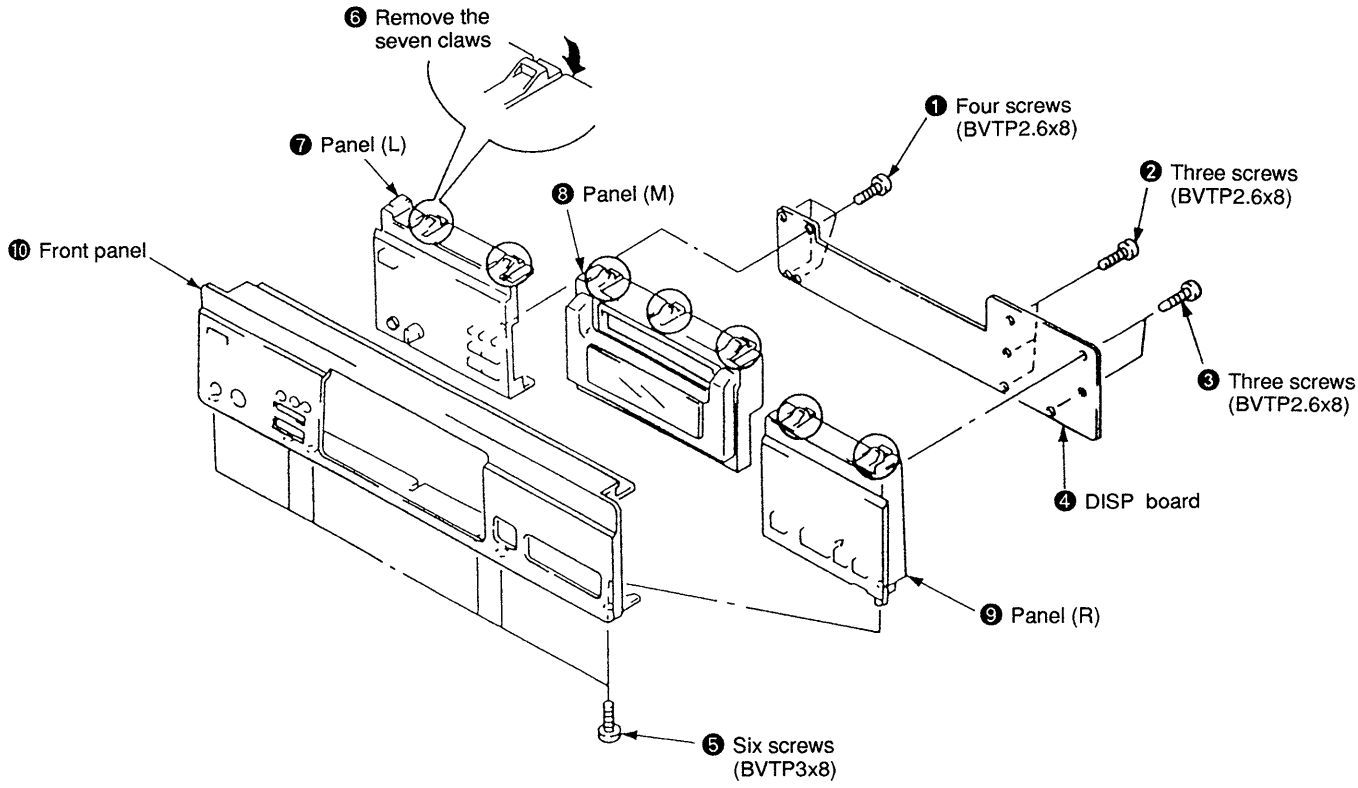
2-1. LOADING PANEL


❸ Remove the loading panel in the direction shown by the arrow.
❷ Pull out of disc table.
❶ Open the tray turning tapering screwdriver to the arrow direction.

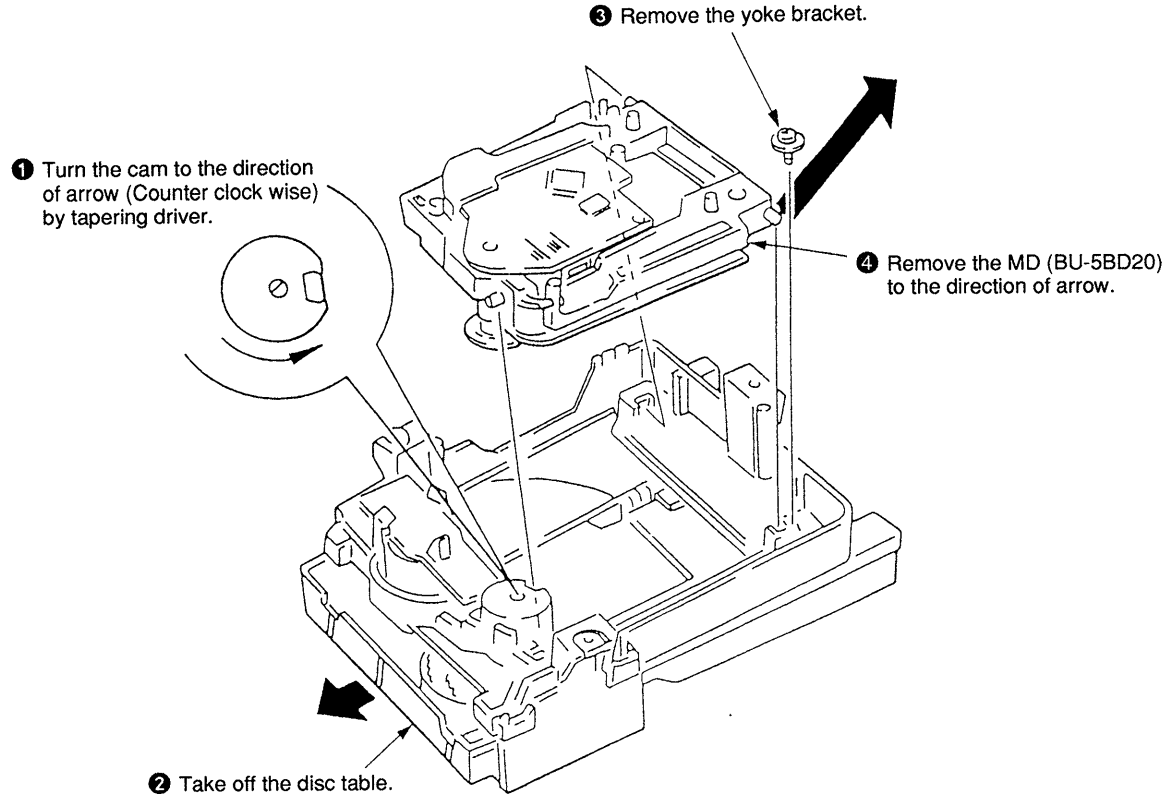
2-2. FRONT PANEL ASSEMBLY


❺ Connector (CN992)
❶ Four screws (BVTT3x8)
❸ Flat type wire (11core)
❻ Front panel assembly
❹ Flat type wire (21core)
❷ Five screws (BV3x8)

2-3. PANEL (L), (M), (R)



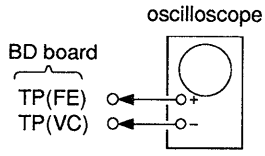
2-4. BASE UNIT (BU-5BD20)


❸ Remove the yoke bracket.
❶ Turn the cam to the direction of arrow (Counter clock wise) by tapering driver.
❹ Remove the MD (BU-5BD20) to the direction of arrow.
❷ Take off the disc table.

SECTION 3
ELECTRICAL BLOCK CHECKING

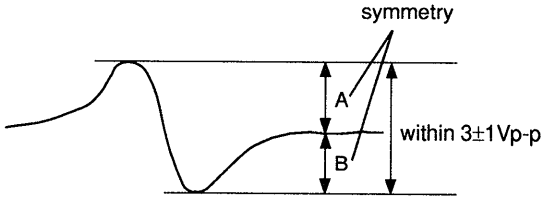
Note :
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

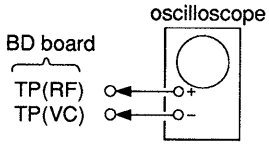
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note : • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

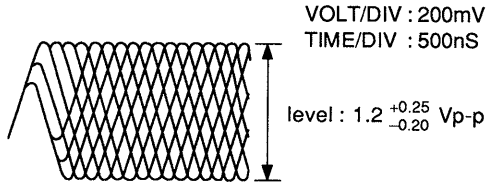


Procedure :
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

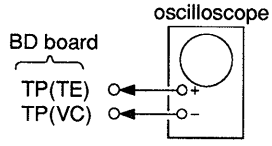
Note :

A clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

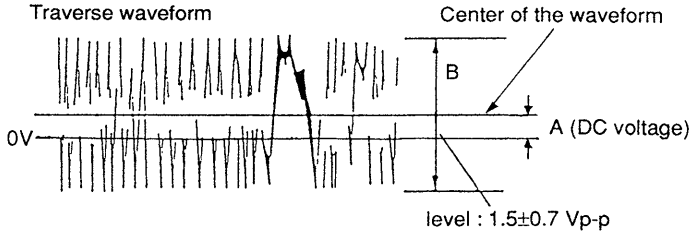
RF signal waveform



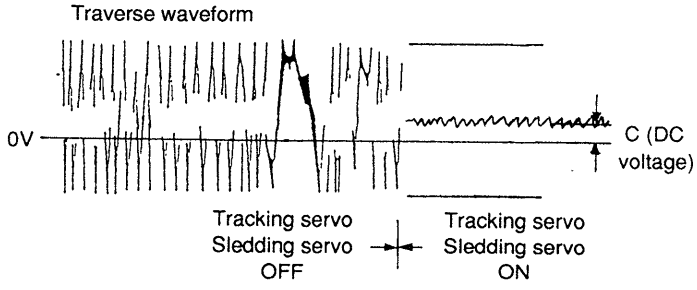
E-F Balance Check



Procedure :
1. Connect test point TP (ADJ) to ground with lead wire.
2. Connect oscilloscpe to test point TP (TE) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in to play the number five track.
5. Press the CHECK button. (The tracking servo and the sledding servo are turned OFF.)
6. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform. Confirm the following :
   A/B x 100 = less than ± 20%.



7. Press the CLEAR button. (The tracking servo and sledding servo are turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) in step 6.

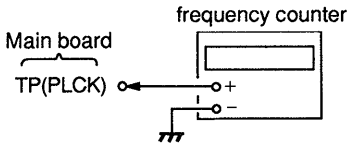


8. Disconnect the laed wire of TP (ADJ) connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

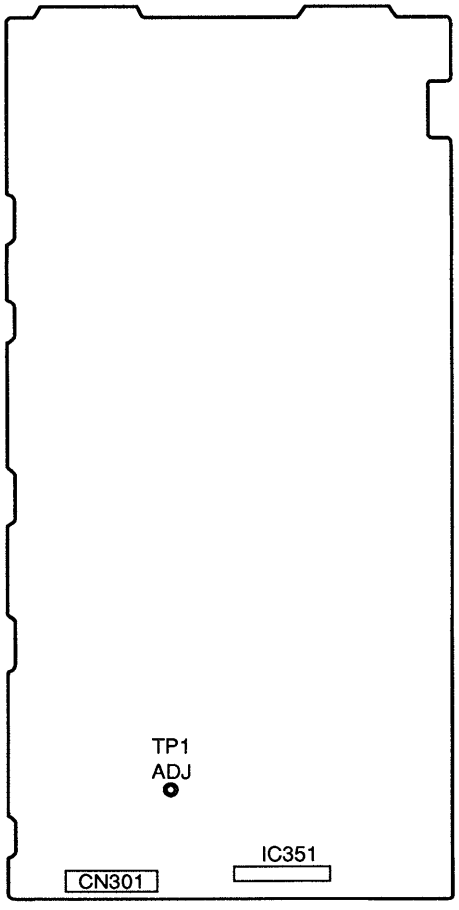
1. Connect frequency counter to test point (PLCK) with lead wire.



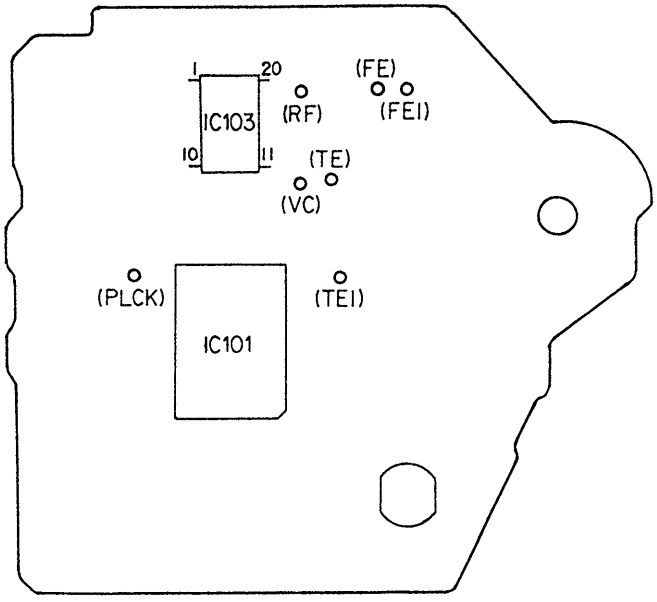
2. Turned Power switch on.
3. Put the disc (YEDS-18) in to play the number five track. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location :

[MAIN BOARD] — Component Side —

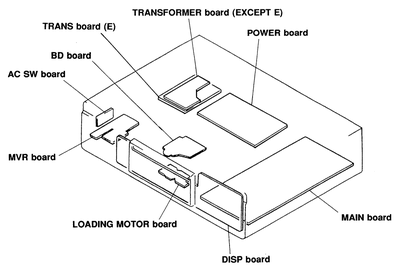


[BD BOARD] — SIDE A —



SECTION 4
DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION

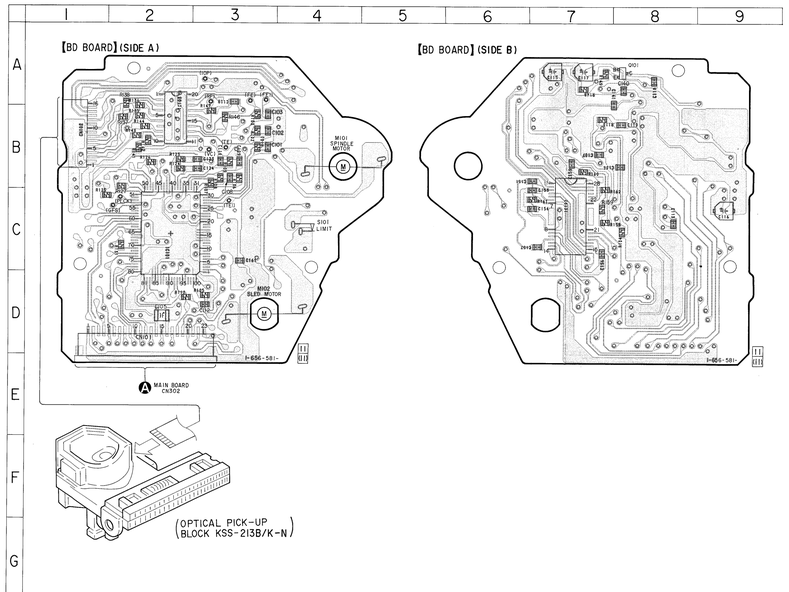


• **Semiconductor Location**

Ref. No.	Location
IC101	C-2
IC102	C-7
IC103	B-2
Q101	A-8

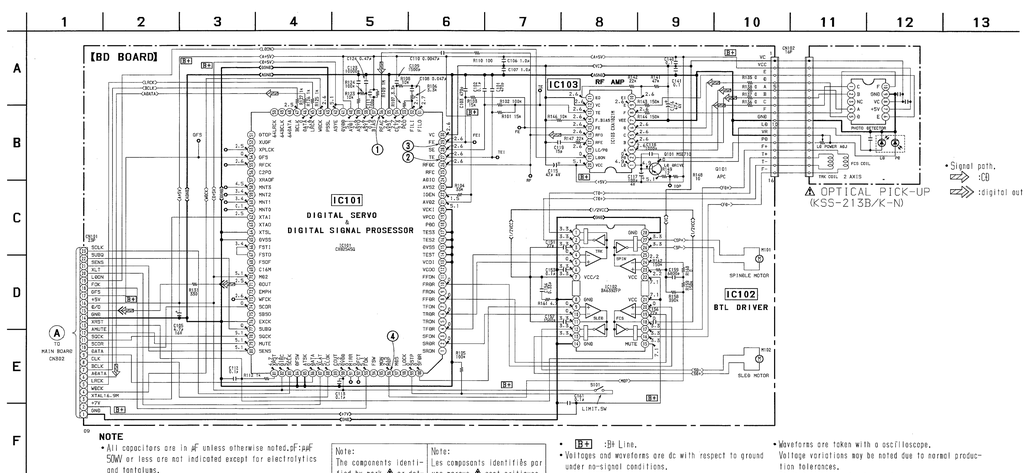
Note:
- ○—— : parts extracted from the components side.
- —— : parts extracted from the conductor side.
- ○ : Through hole.
- : Pattern from the side which enable seeing. (The other layer's patterns are not indicated.)

4-2. PRINTED WIRING BOARD — BD SECTION —



4-3. SCHEMATIC DIAGRAM — BD SECTION —

• See page 22 for IC Block Diagrams.
• See page 24 for IC Pin Functions. (IC101)

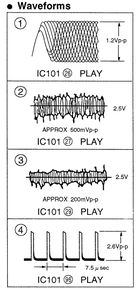


NOTE
- All capacitors are in μF unless otherwise noted. pF: μF
  50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions. no mark:STOP
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

• **Waveforms**



4-4. SCHEMATIC DIAGRAM — MAIN SECTION —

- See page 22 for IC Block Diagrams.
- See page 27 for IC Pin Functions. (IC801)

【LOADING BOARD】

【DISPLAY BOARD】

【MVR BOARD】

【MAIN BOARD】

【POWER BOARD】

【TRANSFORMER BOARD】

【AC SW BOARD】

【TRANS BOARD】

IC801 FL DRIVER

IC802 REMOTE SENSOR

IC301 DIGITAL FILTER

IC302 D/A CONVERTER CX20562G

IC351 LOADING MOTOR DRIVE

IC371 MOTOR DRIVE

IC501 CURRENT DAC

IC503 I/V AMP

IC502 LPF

IC602 LPF

IC603 I/V AMP

IC601 CURRENT DAC

IC551 HP AMP

IC352 OPTICAL/DIGITAL OUT

IC911 AUDIO +5VREG

IC912 RESET

IC913 DIG +5VREG

IC901 AUDIO +5VREG

IC902 AUDIO -5VREG

IC903 +12V REGULATOR

EXCEPT E MODEL

E MODEL

VOLTAGE SELECTOR

MUST REPLACEABLE: BUILT IN TRANSFORMER

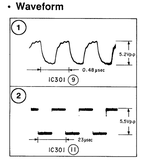
NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.
- : fusible resistor.

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

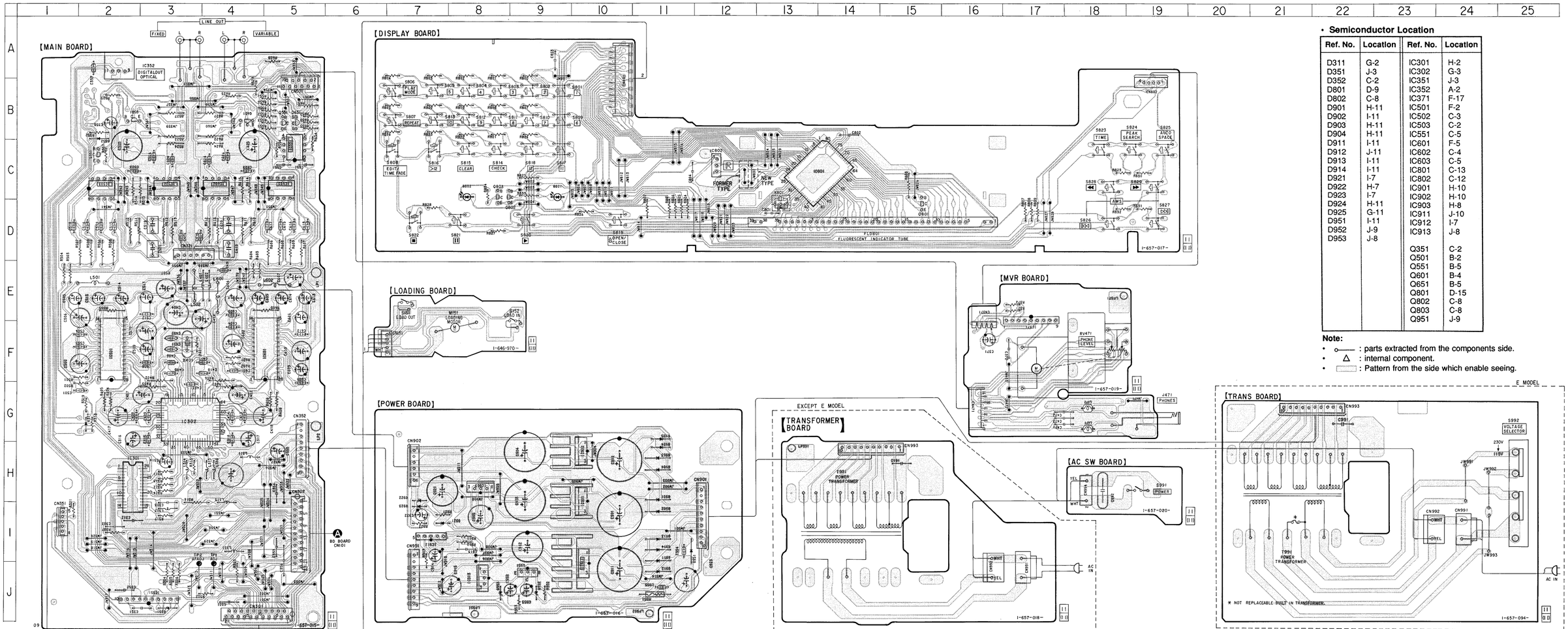
- : B+ Line.
- : B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions. no mark: STOP
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : CB
  : digital out

• Waveform



4-5. PRINTED WIRING BOARD — MAIN SECTION —

• See page 9 for Circuit Boards Location.



• **Semiconductor Location**

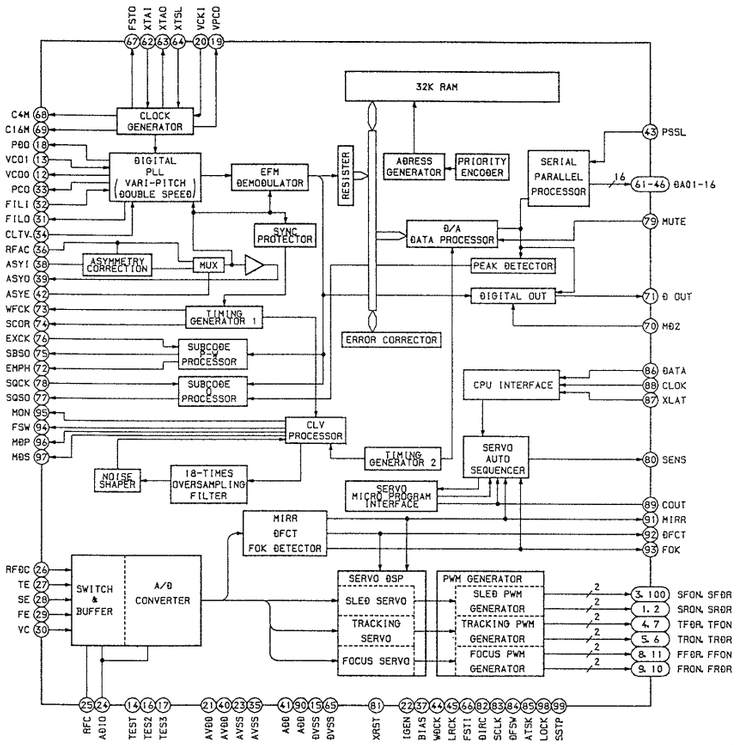
Ref. No.	Location	Ref. No.	Location
D311	G-2	IC301	H-2
D351	J-3	IC302	G-3
D352	C-2	IC351	J-3
D801	D-9	IC352	A-2
D802	C-8	IC371	F-17
D901	H-11	IC501	F-2
D902	I-11	IC502	C-3
D903	H-11	IC503	C-2
D904	H-11	IC551	C-5
D911	I-11	IC601	F-5
D912	J-11	IC602	C-4
D913	I-11	IC603	C-5
D914	I-11	IC801	C-13
D921	I-7	IC802	C-12
D922	H-7	IC901	H-10
D923	I-7	IC902	H-10
D924	H-11	IC903	H-8
D925	G-11	IC911	J-10
D951	I-11	IC912	I-7
D952	J-9	IC913	J-8
D953	J-8		
		Q351	C-2
		Q501	B-2
		Q551	B-5
		Q601	B-4
		Q651	B-5
		Q801	D-15
		Q802	C-8
		Q803	C-8
		Q951	J-9

Note:

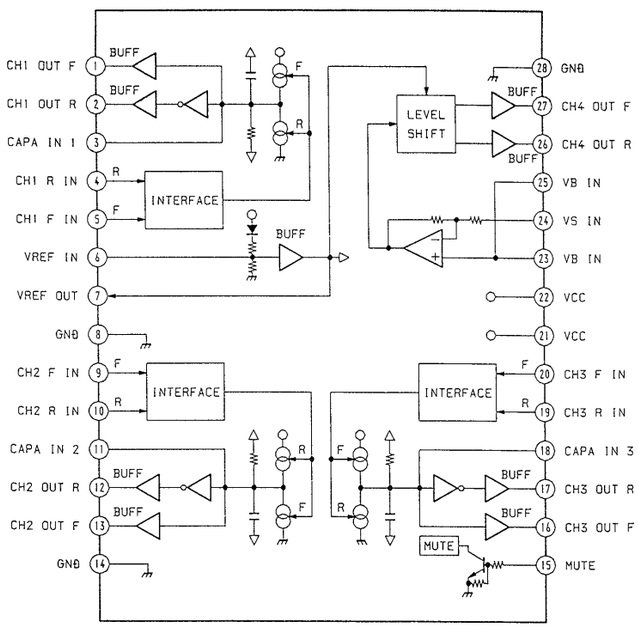
- ○—— : parts extracted from the components side.
- △ : internal component.
- ▭ : Pattern from the side which enable seeing.

4-6. IC BLOCK DIAGRAMS

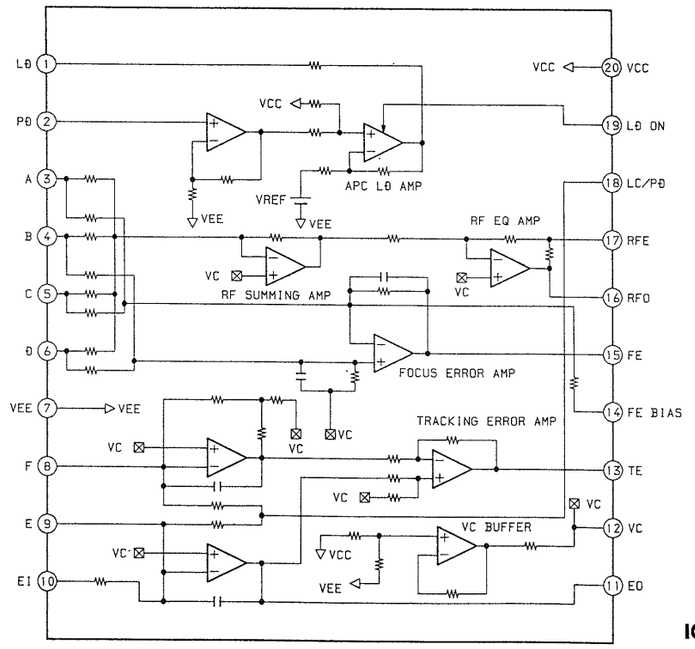
IC101 CXD2545Q



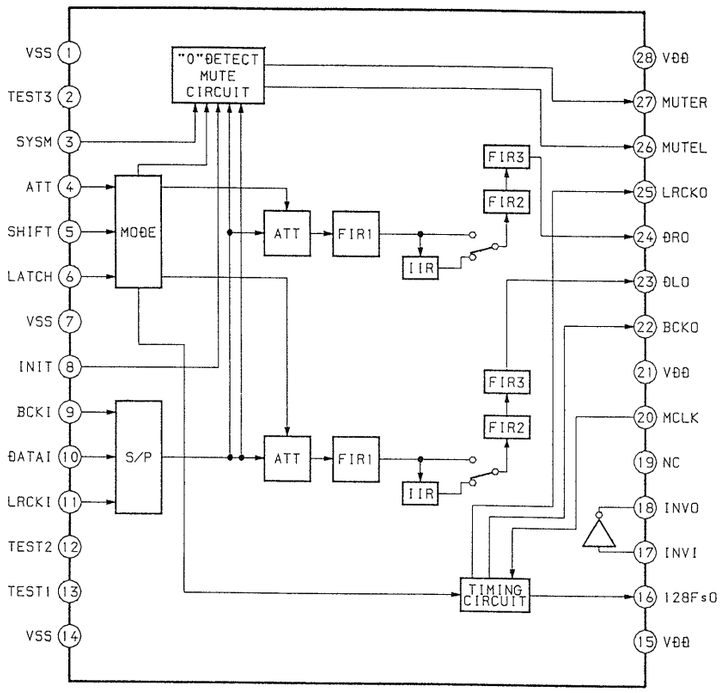
IC102 BA6392FP



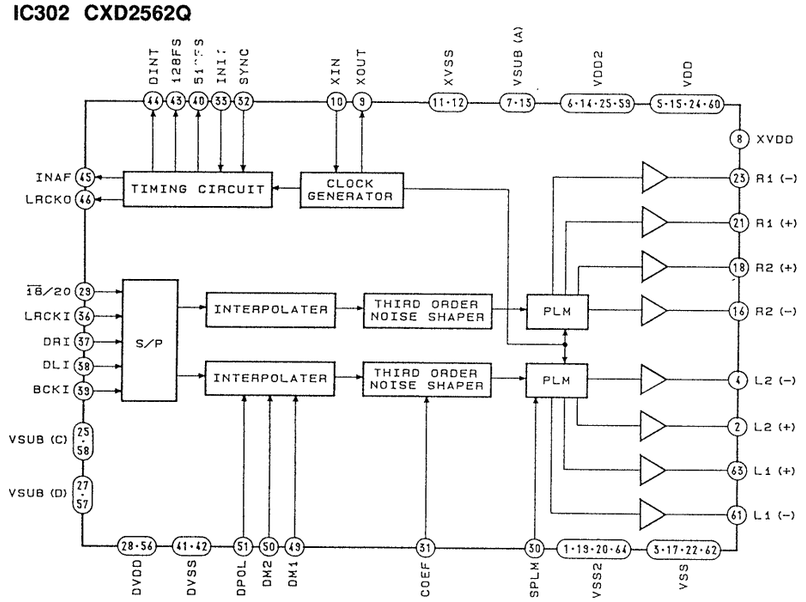
IC103 CXA1821M



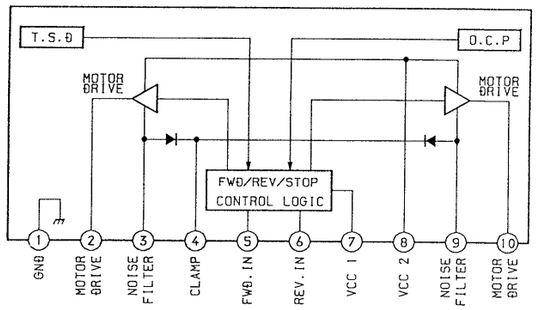
IC301 CXD8504AM



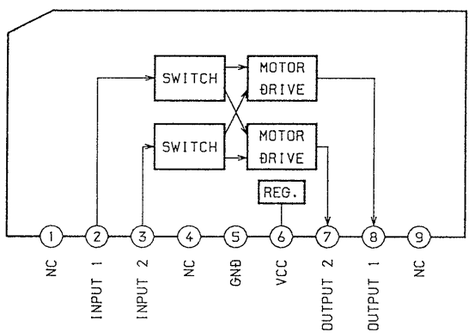
IC302 CXD2562Q



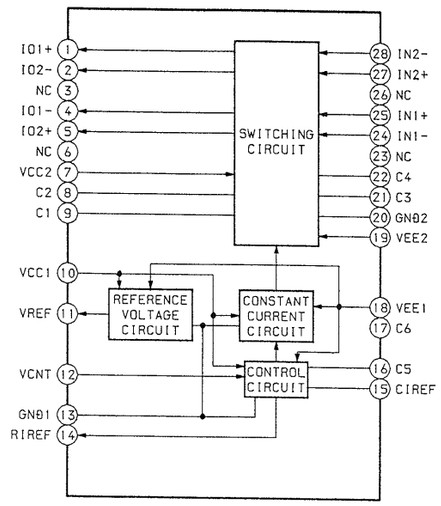
IC351 LB1641



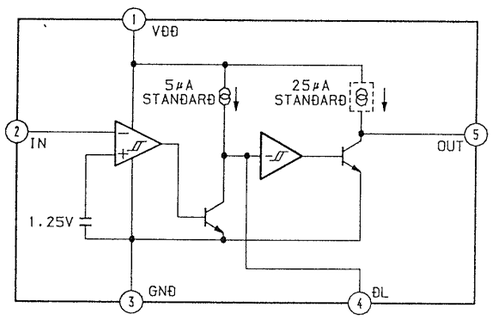
IC371 BA6208



IC501, 601 CXA8042S



IC912 M51957AL



4-7. IC PIN FUNCTIONS

- **IC101 (CXD2545Q)**

Pin No.	Pin Name	I/O	Function
1	SRON	O	Sled drive output (Not used)
2	SRDR	O	Sled drive output
3	SFON	O	Sled drive output (Not used)
4	TFDR	O	Tracking drive output
5	TRON	O	Tracking drive output (Not used)
6	TRDR	O	Tracking drive output
7	TFON	O	Tracking drive output (Not used)
8	FFDR	O	Focus drive output
9	FRON	O	Focus drive output (Not used)
10	FRDR	O	Focus drive output
11	FFON	O	Focus drive output (Not used)
12	VCOO	O	VCO output for analog EFM PLL (Not used)
13	VCOI	I	VCO output for analog EFM PLL (GND)
14	TEST	I	TEST pin connected normally to GND
15	DVss	–	Digital GND
16	TES2	I	TEST pin connected normally to GND
17	TES3	I	TEST pin connected normally to GND
18	PDO	O	Charge-pump output for analog EFM PLL (Not used)
19	VPCO	O	Charge-pump output for variable pitch PLL (Not used)
20	VCKI	I	Clock input from variable pitch external VCO (GND)
21	AVD2	–	Analog power supply
22	IGEN	I	Power supply pin for operational amplifiers
23	AVS2	–	Analog GND
24	ADIO	I	(Not used)
25	RFC	O	(Not used)
26	RFDC	I	RF signal input
27	TE	I	Tracking error signal input
28	SE	I	Sled error signal input
29	FE	I	Focus error signal input
30	VC	I	Center voltage input pin
31	FILO	O	Filter output for master PLL
32	FILI	I	Filter input for master PLL
33	PCO	O	Charge-pump output for master PLL
34	CLTV	I	Control voltage input for master VCO
35	AVS1	–	Analog GND
36	RFAC	I	EFM signal input
37	BIAS	I	Asymmetry circuit constant current input
38	ASYI	I	Asymmetry comparate voltage input
39	ASYO	O	EFM full swing output
40	AVD1	–	Analog power supply

Pin No.	Pin Name	I/O	Function
41	DVDD	–	Digital power supply
42	ASYE	I	Asymmetry circuit ON/OFF
43	PSSL	I	Audio data output mode selection input
44	WDCK	O	48-bit slot D/A interface. Word clock
45	LRCK	O	48-bit slot D/A interface. LR clock
46	DATA	O	DA 16 output when PSSL=1. 48-bit slot serial data when PSSL=0
47	BCLK	O	DA 15 output when PSSL=1. 48-bit slot data when PSSL=0
48	64DATA	O	DA 14 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
49	64BCLK	O	DA 13 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
50	64LRCK	O	DA 12 output when PSSL=1. 64-bit slot data when PSSL=0 (Not used)
51	GTOP	O	DA 11 output when PSSL=1. GTOP output when PSSL=0 (Not used)
52	XUGF	O	DA 10 output when PSSL=1. XUGF output when PSSL=0 (Not used)
53	XPLCK	O	DA 09 output when PSSL=1. XPLCK output when PSSL=0
54	GFS	O	DA 08 output when PSSL=1. GFS output when PSSL=0
55	PFCK	O	DA 07 output when PSSL=1. RFCK output when PSSL=0
56	C2PO	O	DA 06 output when PSSL=1. C2PO output when PSSL=0 (Not used)
57	XRAOF	O	DA 05 output when PSSL=1. XRA0F output when PSSL=0
58	MNT3	O	DA 04 output when PSSL=1. MNT3 output when PSSL=0
59	MNT2	O	DA 03 output when PSSL=1. MNT2 output when PSSL=0
60	MNT1	O	DA 02 output when PSSL=1. MNT1 output when PSSL=0
61	MNT0	O	DA 01 output when PSSL=1. MNT0 output when PSSL=0
62	XTAI	I	X'tal oscillator circuit input
63	XTAO	O	X'tal oscillator circuit output (Not used)
64	XTSL	I	X'tal selection input pin (GND)
65	DVss	–	Digital GND
66	FSTI	I	2/3 divider output of pins 62, 63
67	FSTO	O	2/3 divider output of pins 62, 63
68	FSOF	O	(Not used)
69	C16M	O	16.9344 MHz output (Not used)
70	MD2	I	Digital-out ON/OFF control pin (+5V)
71	DOUT	O	Digital-out output pin
72	EMPH	O	Playback disc output in emphasis mode (Not used)
73	WFCK	O	WFCK output
74	SCOR	O	Sub-code sync output
75	SBSO	O	Sub-P through Sub-W serial output (Not used)
76	EXCK	I	Clock input for SBS0 read-out (GND)
77	SUBQ	O	Sub-Q 80-bit output
78	SQCK	I	Clock input for SQS0 read-out
79	MUTE	I	Muting selection pin
80	SENS	O	SENS output
81	XRST	I	System reset
82	DIRC	I	Used in 1-track jump mode (+5V)
83	SCLK	I	SENS serial data read-out clock
84	DFSW	I	DFCT selection pin (GND)
85	ATSK	I	Input pin for anti-shock (GND)

Pin No.	Pin Name	I/O	Function
86	DATA	I	Serial data input, supplied from CPU
87	XLAT	I	Latch input, supplied from CPU
88	CLOK	I	Serial data transfer clock input, supplied from CPU
89	COUT	O	Numbers of track counted signal output (Not used)
90	DV_{DD}	–	Digital power supply
91	MIRR	O	Mirror signal output
92	DFCT	O	Defect signal output
93	FOK	O	Focus OK output
94	FSW	O	Output to select spindle motor output filter (Not used)
95	MON	O	Output to control ON/OFF of spindle motor (Not used)
96	MDP	O	Output to control spindle motor servo
97	MDS	O	Output to control spindle motor servo (Not used)
98	LOCK	O	GFS is sampled by 460 Hz. H when GFS is H (Not used)
99	SSTP	I	Input signal to detect disc inner most track
100	SFDR	O	Sled drive output

- **IC801 (CXP82316-055Q: FORMER TYPE/CXP82316-069Q: NEW TYPE)**

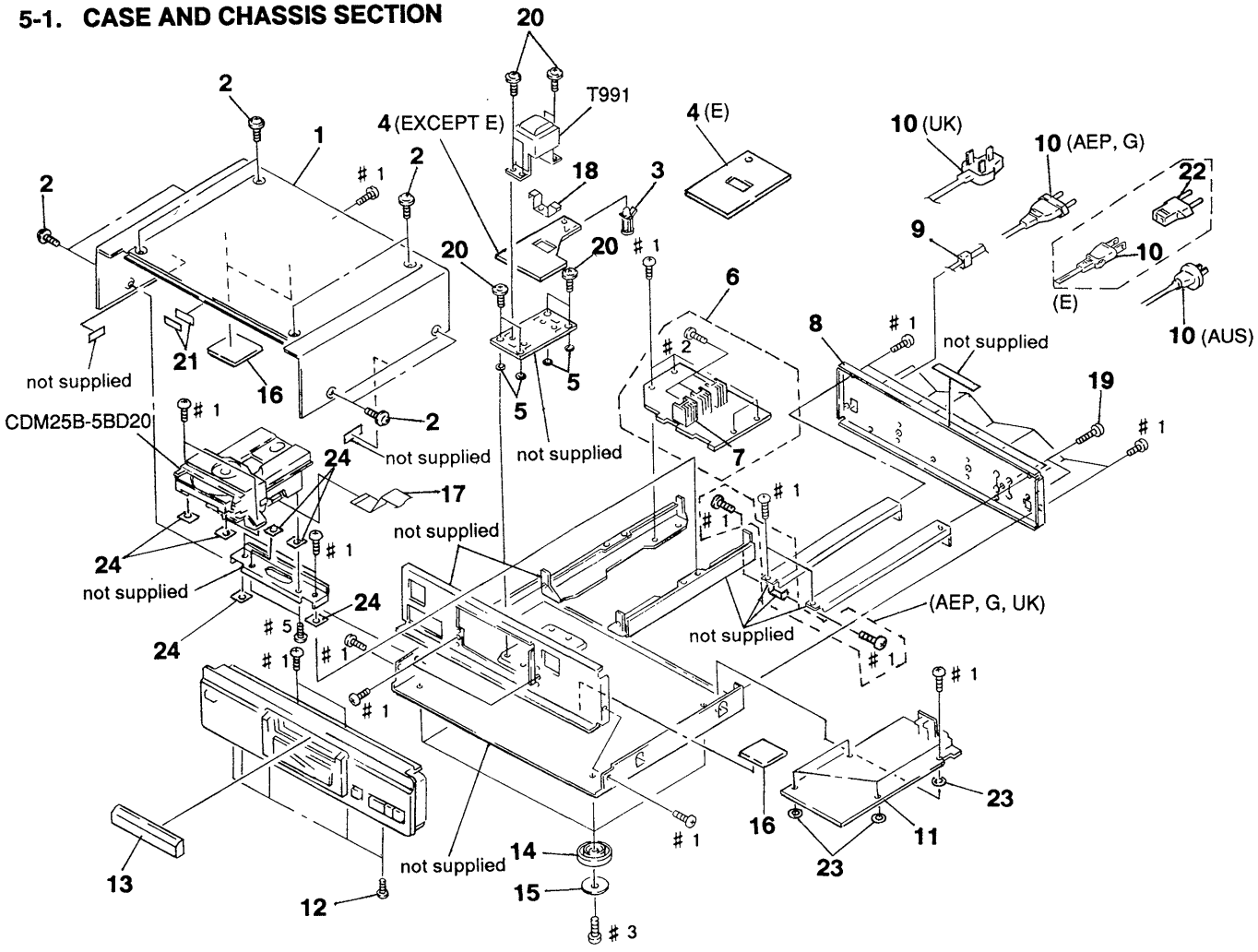
Pin No.	Pin Name	I/O	Function
1	TIMER	–	Connected to GND (FORMER TYPE). Connected to +5V (NEW TYPE).
2	RM (BUSIN)	I	Audio bus input.
3	+5V	–	Connected to +5V.
4	OPEN	–	Not used. (open)
5	OPEN	–	
6	(BUS-OUT)	–	
7	PRGL	O	Latch signal output to digital filter (IC303).
8	CLK	O	Serial clock output.
9	SENSE	I	SENSE signal input.
10	DATA	O	Serial data output.
11	SQCK	O	Read out clock output for subcode Q data.
12	SUBQ	I	Subcode Q data input.
13	OPEN	–	Not used. (open)
14	AMUTE	O	Analog muting control signal output.
15	LDON	O	Optical pickup laser diode control output.
16	XLT	O	Serial data latch signal output.
17	OPEN	–	Not used. (open)
18	RV+	O	Remote commander volume +.
19	RV–	O	Remote commander volume –.
20	LDOUT	O	Loading motor control signal output.
21	LDIN	O	
22 to 27	KEY0 to KEY5	I	Key input. (S803 to S843)
28	ADJ/AFADJ	–	ADJ, AFJ test pin.
29	IN/OUTSW	I	Loading IN/OUT switch input.
30	RST	I	Reset signal input.
31	EXTAL	I	Clock input. (4 MHz)
32	XTAL	O	Clock output. (4 MHz)
33	Vss	–	GND
34 to 41	OPEN	–	Not used. (open)
42 to 62	SEG1 to SEG21	O	FL segment output.
63 to 70	1G to 8G	O	FL grid output.
71	VFDP (–30V)	–	–30V pin for FL display tube.
72	V_{DD} (+5V)	–	+5V pin.
73	——	–	
74	SEL1	–	Connected to +5V.
75	IN PORT	–	Connected to +5V.
76	IN PORT	–	
77	IN PORT	–	
78	SCOR	I	Read out timing signal input for subcode Q data.
79	SEL2	–	Connected to +5V.
80	SEL3	–	Connected to GND.

SECTION 5
EXPLODED VIEWS

NOTE:
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  G : German model
  AUS : Australian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

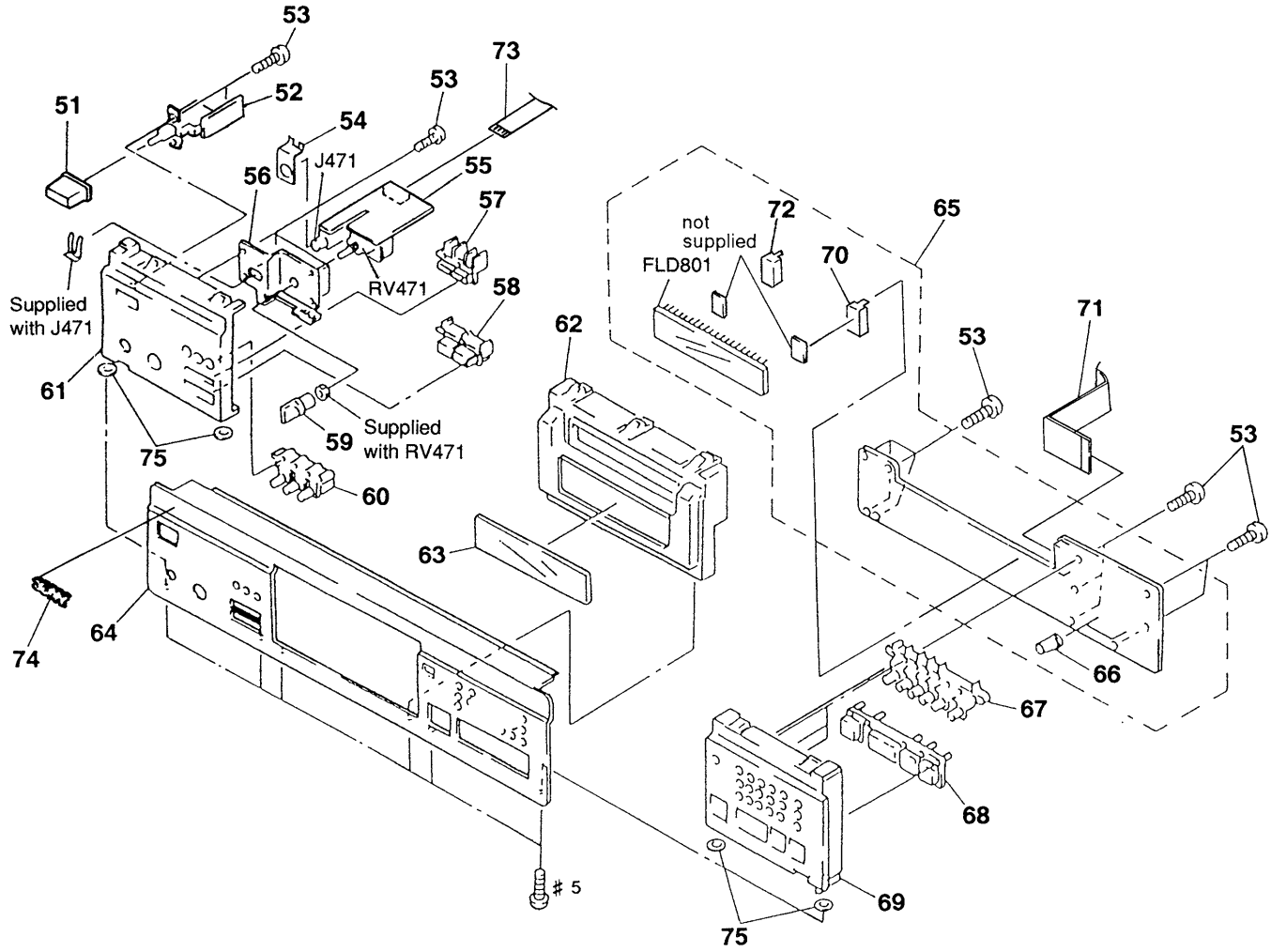
5-1. CASE AND CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	4-969-469-01	CASE	
2	3-704-366-01	SCREW (CASE) (M3X8)	
* 3	3-670-570-31	SPACER, SUPPORT	
* 4	1-657-018-11	TRANSFORMER BOARD (EXCEPT E)	
* 4	1-657-094-11	TRANS BOARD (E)	
5	4-949-302-81	WASHER	
* 6	A-4673-547-A	POWER BOARD, COMPLETE	
* 7	4-363-146-00	HEAT SINK, V.OUT	
* 8	4-974-256-02	PANEL, BACK (AEP, G)	
* 8	4-974-256-21	PANEL, BACK (E)	
* 8	4-974-256-31	PANEL, BACK (UK)	
* 8	4-974-256-41	PANEL, BACK (AUS)	
* 9	3-703-244-00	BUSHING (2104), CORD	
⚠10	1-558-181-21	CORD, POWER (E)	
⚠10	1-558-568-21	CORD, POWER (AEP, G)	
⚠10	1-696-571-11	CORD, POWER (UK)	
⚠10	1-696-845-11	CORD, POWER (AUS)	

Ref. No.	Part No.	Description	Remark
* 11	A-4673-545-A	MAIN BOARD, COMPLETE	
12	3-703-685-21	SCREW (+BV 3X8)	
13	4-974-258-01	PANEL, LOADING	
14	4-970-123-01	FOOT (F50180S)	
15	4-970-124-01	CUSHION (F50180S)	
* 16	4-962-329-01	DAMPER	
17	1-696-998-11	WIRE (FLAT TYPE) (23 CORE)	
18	4-952-197-01	PLATE (TR), GROUND	
19	3-704-515-21	SCREW (BV/RING)	
20	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
* 21	4-615-354-01	SPACER	
⚠22	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
23	4-949-302-21	WASHER	
* 24	4-959-062-11	SHEET (CDM)	
⚠T991	1-427-938-11	TRANSFORMER, POWER (EXCEPT E)	
⚠T991	1-427-997-11	TRANSFORMER, POWER (E)	

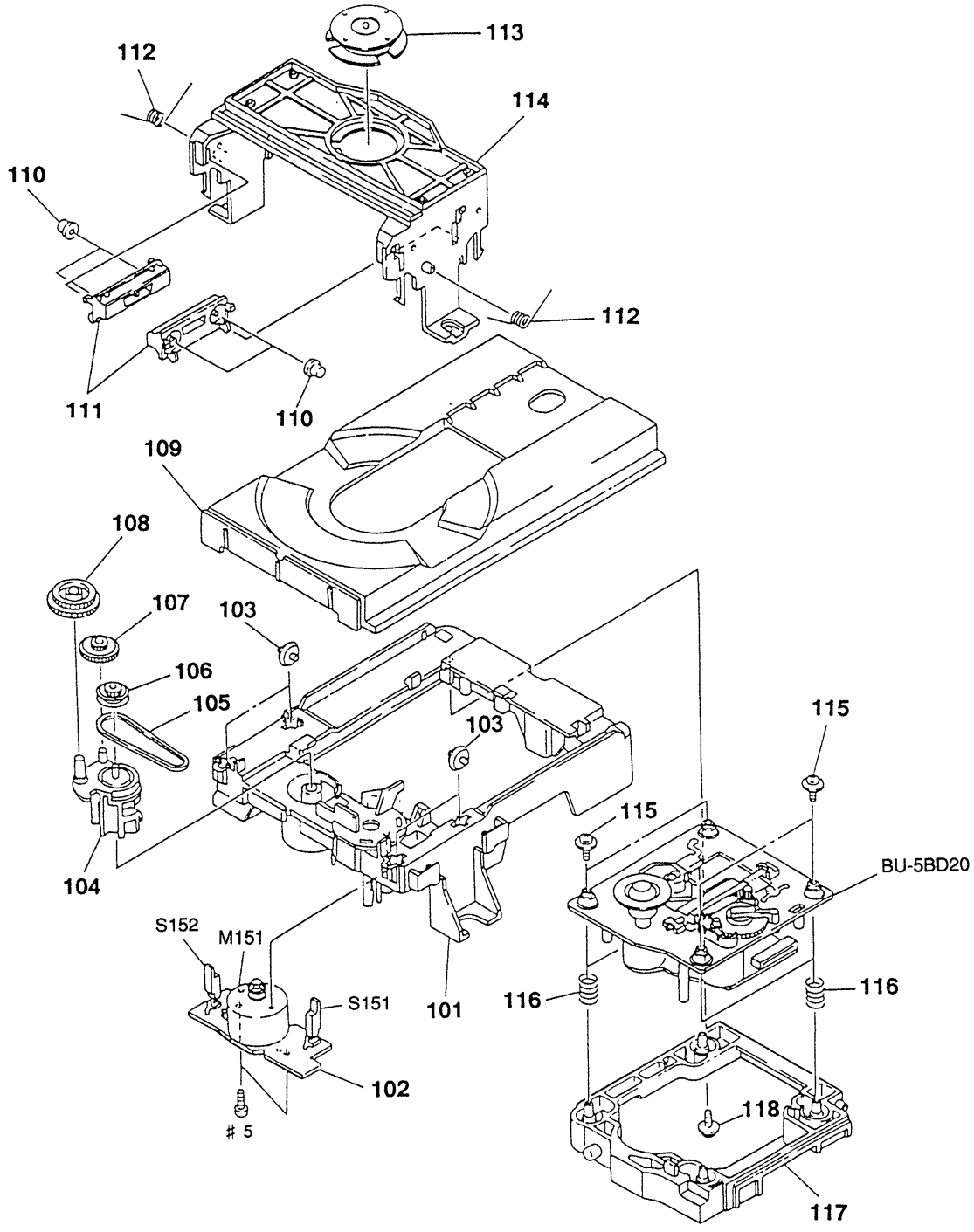
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	4-923-520-51	KNOB, POWER	
* 52	1-657-020-11	AC SW BOARD	
53	4-951-620-01	SCREW (2.6X8), +BVTP	
* 54	4-962-201-01	PLATE (HP), GROUND	
* 55	1-657-019-11	MVR BOARD	
* 56	4-969-478-01	BRACKET (HP)	
57	4-970-528-01	BUTTON (F.R)	
58	4-969-562-01	BUTTON (AMS)	
59	4-950-189-01	KNOB (A) (VOL)	
60	4-970-527-01	BUTTON (TIME)	
61	4-969-470-01	PANEL (L)	
62	4-974-254-01	PANEL (M)	
63	4-974-259-01	PLATE, INDICATION	
64	4-974-253-01	PANEL, FRONT	

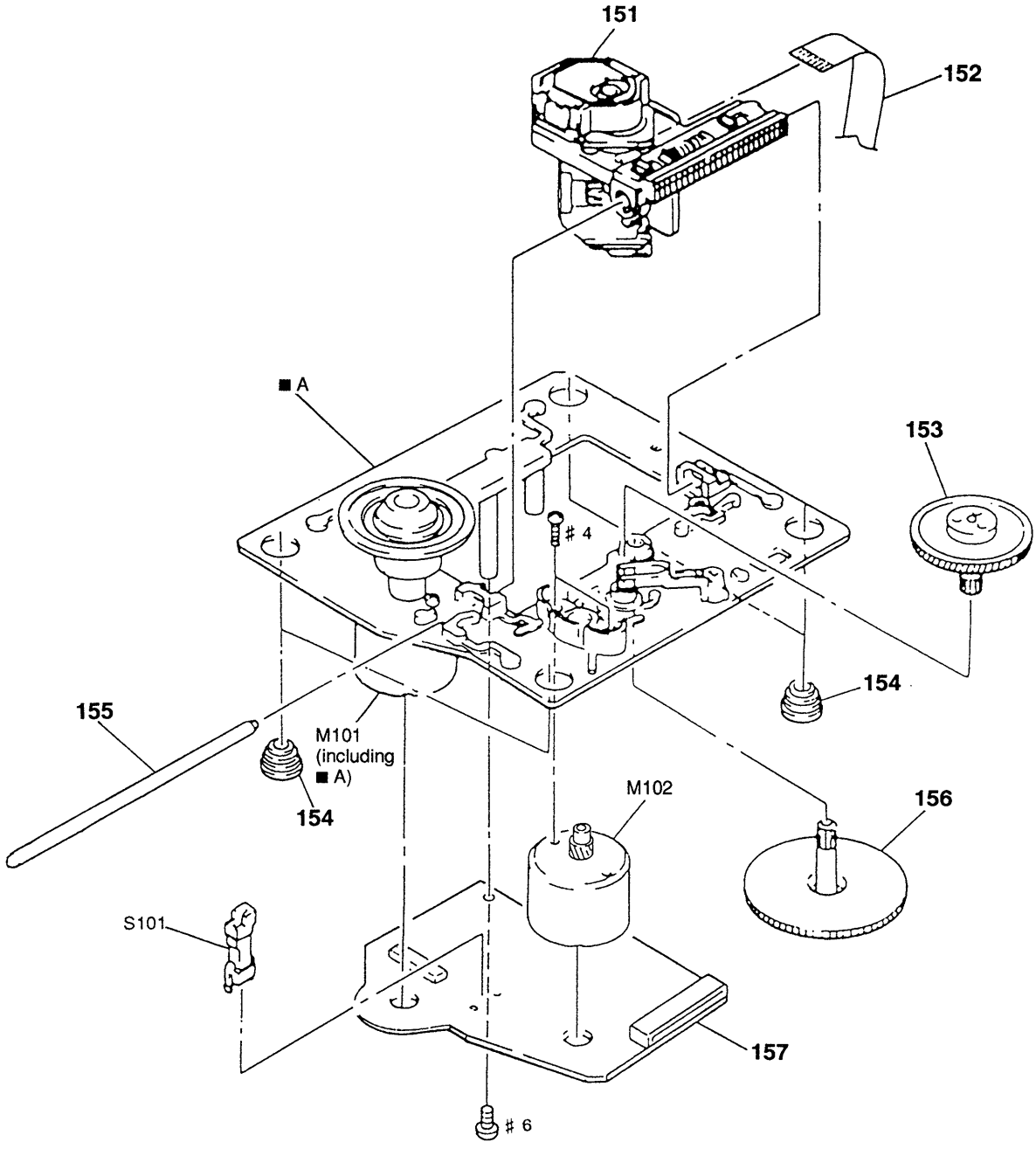
Ref. No.	Part No.	Description	Remark
* 65	A-4673-542-A	DISP BOARD, COMPLETE	
* 66	3-362-478-01	HOLDER (T), LED (AEP, UK, G)	
67	4-969-475-01	BUTTON (DIRECT)	
68	X-4945-276-1	BUTTON (PLAY) ASSY	
69	4-969-471-11	PANEL (R)	
* 70	4-922-523-01	HOLDER (RIGHT)	
71	1-775-349-11	WIRE (FLAT TYPE) (21 CORE)	
* 72	4-922-524-01	HOLDER (LEFT)	
73	1-696-995-11	WIRE (FLAT TYPE) (11 CORE)	
74	4-942-568-01	EMBLEM (NO.5), SONY	
75	4-949-302-21	WASHER	
J471	1-750-162-61	JACK (LARGE TYPE)	
RV471	1-223-747-11	RES, VAR, CARBON 10K/10K	

5-3. CD MECHANISM SECTION (CDM25B-5BD20)



Ref. No.	Part No.	Description	Remark
* 101	4-954-190-01	BASE (MD)	
* 102	1-646-970-11	LOADING BOARD	
103	4-954-193-01	ROLLER (A)	
104	4-933-109-01	CAM	
105	4-927-649-01	BELT	
106	4-927-651-01	PULLEY (S)	
107	4-967-268-01	GEAR (C)	
108	4-933-107-01	GEAR (PL)	
109	4-954-191-01	TABLE, DISK	
110	4-954-194-01	ROLLER (B)	
111	4-954-199-01	PLATE, SLIDE	
112	4-954-195-01	SPRING, TORSION	
* 113	1-452-538-11	MAGNET	
* 114	4-954-192-01	HOLDER (M)	
115	4-933-134-01	SCREW (+PTPWH M2.6X6)	
116	4-959-996-01	SPRING (932), COMPRESSION	
117	4-933-129-01	HOLDER (BU)	
* 118	4-917-583-21	BRACKET, YOKE	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)	

5-4. BASE UNIT SECTION (BU-5BD20)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
⚠151	8-848-367-11	OPTICAL PICK-UP BLOCK KSS-213B/K-N	
152	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
153	4-917-567-01	GEAR (M)	
154	4-951-940-01	INSULATOR (BU)	
155	4-917-565-01	SHAFT, SLED	
156	4-917-564-01	GEAR (P), FLATNESS	
* 157	A-4673-509-A	BD BOARD, COMPLETE	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	

BD

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Abbreviation
  G : German model
  AUS : Australian model

Ref.No.	Part No.	Description			Remark
	A-4673-509-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C102	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C103	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10% 16V	
C106	1-164-346-11	CERAMIC CHIP	1uF	16V	
C107	1-164-346-11	CERAMIC CHIP	1uF	16V	
C108	1-163-035-00	CERAMIC CHIP	0.047uF	50V	
C109	1-163-145-00	CERAMIC CHIP	0.0015uF	5% 50V	
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	
C111	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C112	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C113	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C115	1-126-607-11	ELECT CHIP	47uF	20% 4V	
C116	1-126-607-11	ELECT CHIP	47uF	20% 4V	
C117	1-126-209-11	ELECT	100uF	20% 4V	
C118	1-163-275-11	CERAMIC CHIP	0.001uF	5% 50V	
C119	1-163-097-00	CERAMIC CHIP	15PF	5% 50V	
C123	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C124	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C140	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C141	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C151	1-163-237-11	CERAMIC CHIP	27PF	5% 50V	
C153	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C154	1-164-336-11	CERAMIC CHIP	0.33uF	25V	
C156	1-163-237-11	CERAMIC CHIP	27PF	5% 50V	
C157	1-163-145-00	CERAMIC CHIP	0.0015uF	5% 50V	
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V	
C161	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
		< CONNECTOR >			
CN101	1-770-072-11	CONNECTOR (FFC) 23P			
CN102	1-770-014-11	CONNECTOR, FFC/FPC 16P			
		< IC >			
IC101	8-752-369-78	IC CXD2545Q			
IC102	8-759-176-09	IC BA6392FP			
IC103	8-752-072-45	IC CXA1821M-T6			

Ref.No.	Part No.	Description			Remark
		< MOTOR >			
M101	X-4917-504-1	MOTOR ASSY (SLED)			
M102	X-4917-523-4	BASE (OUTSERT) ASSY (SPINDLE MOTOR)			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R102	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R103	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R104	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R105	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R106	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R107	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R108	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R109	1-216-121-00	METAL CHIP	1M	5% 1/10W	
R110	1-216-025-91	METAL GLAZE	100	5% 1/10W	
R112	1-216-049-91	METAL GLAZE	1K	5% 1/10W	
R123	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R124	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R125	1-216-049-91	METAL GLAZE	1K	5% 1/10W	
R126	1-216-049-91	METAL GLAZE	1K	5% 1/10W	
R127	1-216-049-91	METAL GLAZE	1K	5% 1/10W	
R131	1-216-037-00	METAL CHIP	330	5% 1/10W	
R135	1-216-295-91	CONDUCTOR, CHIP (2012)			
R136	1-216-295-91	CONDUCTOR, CHIP (2012)			
R137	1-216-295-91	CONDUCTOR, CHIP (2012)			
R138	1-216-295-91	CONDUCTOR, CHIP (2012)			
R141	1-216-089-00	METAL CHIP	47K	5% 1/10W	
R142	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R143	1-216-101-00	METAL CHIP	150K	5% 1/10W	
R144	1-216-101-00	METAL CHIP	150K	5% 1/10W	
R146	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R147	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R148	1-216-001-00	METAL CHIP	10	5% 1/10W	
R149	1-216-003-11	METAL GLAZE	12	5% 1/10W	
R158	1-216-111-00	METAL CHIP	390K	5% 1/10W	
R159	1-216-101-00	METAL CHIP	150K	5% 1/10W	
R160	1-216-295-91	CONDUCTOR, CHIP (2012)			
R161	1-216-308-00	METAL CHIP	4.7	5% 1/10W	
R162	1-216-101-00	METAL CHIP	150K	5% 1/10W	

Ref.No.	Part No.	Description			Remark
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			
**********					
*	1-646-970-11	LOADING BOARD			
		< CONNECTOR >			
* CN151	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)			
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)			
**********					
*	1-657-020-11	AC SW BOARD			
		**********			
*	A-4673-542-A	DISP BOARD, COMPLETE			
		**********			
*	A-4673-545-A	MAIN BOARD, COMPLETE			
		**********			
*	1-657-019-11	MVR BOARD			
		*********			
*	A-4673-547-A	POWER BOARD, COMPLETE			
		**********			
*	1-657-018-11	TRANSFORMER BOARD (EXCEPT E)			
		**********			
*	4-363-146-00	HEAT SINK, V.OUT			
*	4-922-523-01	HOLDER (RIGHT)			
*	4-922-524-01	HOLDER (LEFT)			
*	4-962-201-01	PLATE (HP), GROUND			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C265	1-124-572-11	ELECT	100uF	20%	63V
C301	1-164-159-21	CERAMIC	0.1uF		50V
C303	1-162-294-31	CERAMIC	0.001uF	10%	50V
C311	1-109-857-11	ELECT	47uF	20%	63V
C312	1-164-159-21	CERAMIC	0.1uF		50V
C313	1-162-208-31	CERAMIC	24PF	5%	50V
C314	1-126-044-11	ELECT	1uF	20%	50V
C315	1-136-165-00	FILM	0.1uF	5%	50V
C316	1-126-023-11	ELECT	100uF	20%	16V
C317	1-126-023-11	ELECT	100uF	20%	16V
C318	1-136-165-00	FILM	0.1uF	5%	50V
C351	1-162-306-11	CERAMIC	0.01uF	30%	16V
C352	1-161-494-00	CERAMIC	0.022uF		25V
C353	1-164-159-21	CERAMIC	0.1uF		50V
C354	1-164-159-21	CERAMIC	0.1uF		50V
C355	1-126-023-11	ELECT	100uF	20%	16V
C356	1-164-159-21	CERAMIC	0.1uF		50V
C357	1-136-165-00	FILM	0.1uF	5%	50V
C358	1-126-059-11	ELECT	10uF	20%	50V
C371	1-124-443-00	ELECT	100uF	20%	10V
C372	1-161-494-00	CERAMIC	0.022uF		25V
C401	1-102-947-00	CERAMIC	10PF	5%	50V
C402	1-102-947-00	CERAMIC	10PF	5%	50V
C403	1-162-806-11	CERAMIC	0.1uF	10%	50V
C404	1-109-857-11	ELECT	47uF	20%	63V
C405	1-130-495-00	MYLAR	0.1uF	5%	50V
C406	1-130-495-00	MYLAR	0.1uF	5%	50V
C407	1-124-122-11	ELECT	100uF	20%	50V
C408	1-130-495-00	MYLAR	0.1uF	5%	50V
C409	1-130-495-00	MYLAR	0.1uF	5%	50V
C410	1-130-495-00	MYLAR	0.1uF	5%	50V
C411	1-130-495-00	MYLAR	0.1uF	5%	50V
C412	1-124-122-11	ELECT	100uF	20%	50V
C413	1-130-495-00	MYLAR	0.1uF	5%	50V
C414	1-130-495-00	MYLAR	0.1uF	5%	50V
C415	1-162-806-11	CERAMIC	0.1uF	10%	50V
C416	1-162-806-11	CERAMIC	0.1uF	10%	50V
C417	1-124-122-11	ELECT	100uF	20%	50V
C418	1-124-122-11	ELECT	100uF	20%	50V
C419	1-124-122-11	ELECT	100uF	20%	50V
C420	1-162-806-11	CERAMIC	0.1uF	10%	50V
C471	1-162-294-31	CERAMIC	0.001uF	10%	50V
C472	1-162-294-31	CERAMIC	0.001uF	10%	50V
C473	1-164-159-21	CERAMIC	0.1uF		50V
C501	1-130-973-00	FILM	0.022uF	5%	100V
C502	1-124-122-11	ELECT	100uF	20%	50V
C503	1-136-850-11	FILM	0.1uF	5%	63V
C504	1-136-850-11	FILM	0.1uF	5%	63V
C505	1-126-059-11	ELECT	10uF	20%	50V
C506	1-124-122-11	ELECT	100uF	20%	50V
C507	1-124-122-11	ELECT	100uF	20%	50V
C508	1-136-802-11	FILM	0.015uF	5%	100V
C509	1-126-059-11	ELECT	10uF	20%	50V
C510	1-124-122-11	ELECT	100uF	20%	50V
C511	1-126-059-11	ELECT	10uF	20%	50V
C512	1-136-802-11	FILM	0.015uF	5%	100V
C513	1-126-059-11	ELECT	10uF	20%	50V
C514	1-126-059-11	ELECT	10uF	20%	50V
C515	1-130-955-00	FILM	0.01uF	5%	100V
C516	1-130-955-00	FILM	0.01uF	5%	100V
C517	1-130-339-00	FILM	0.0056uF	5%	100V
C518	1-130-339-00	FILM	0.0056uF	5%	100V
C519	1-136-814-11	FILM	0.001uF	5%	100V

Ref.No.	Part No.	Description			Remark
C520	1-136-814-11	FILM	0.001uF	5%	100V
C523	1-136-593-11	FILM	0.0033uF	5%	100V
C524	1-136-805-91	FILM	820PF	5%	630V
C525	1-124-572-11	ELECT	100uF	20%	63V
C526	1-130-892-00	FILM	0.015uF	5%	63V
C551	1-164-159-21	CERAMIC	0.1uF		50V
C601	1-130-973-00	FILM	0.022uF	5%	100V
C602	1-124-122-11	ELECT	100uF	20%	50V
C603	1-136-850-11	FILM	0.1uF	5%	63V
C604	1-136-850-11	FILM	0.1uF	5%	63V
C605	1-126-059-11	ELECT	10uF	20%	50V
C606	1-124-122-11	ELECT	100uF	20%	50V
C607	1-124-122-11	ELECT	100uF	20%	50V
C608	1-136-802-11	FILM	0.015uF	5%	100V
C609	1-126-059-11	ELECT	10uF	20%	50V
C610	1-124-122-11	ELECT	100uF	20%	50V
C611	1-126-059-11	ELECT	10uF	20%	50V
C612	1-136-802-11	FILM	0.015uF	5%	100V
C613	1-126-059-11	ELECT	10uF	20%	50V
C614	1-126-059-11	ELECT	10uF	20%	50V
C615	1-130-955-00	FILM	0.01uF	5%	100V
C616	1-130-955-00	FILM	0.01uF	5%	100V
C617	1-130-339-00	FILM	0.0056uF	5%	100V
C618	1-130-339-00	FILM	0.0056uF	5%	100V
C619	1-136-814-11	FILM	0.001uF	5%	100V
C620	1-136-814-11	FILM	0.001uF	5%	100V
C623	1-136-593-11	FILM	0.0033uF	5%	100V
C624	1-136-805-91	FILM	820PF	5%	630V
C625	1-124-572-11	ELECT	100uF	20%	63V
C626	1-130-892-00	FILM	0.015uF	5%	63V
C651	1-164-159-21	CERAMIC	0.1uF		50V
C801	1-161-494-00	CERAMIC	0.022uF		25V
C802	1-164-159-21	CERAMIC	0.1uF		50V
C803	1-164-159-21	CERAMIC	0.1uF		50V
C804	1-161-494-00	CERAMIC	0.022uF		25V
C901	1-124-636-00	ELECT	3300uF	20%	25V
C902	1-124-636-00	ELECT	3300uF	20%	25V
C903	1-124-563-11	ELECT	2200uF	20%	25V
C904	1-124-563-11	ELECT	2200uF	20%	25V
C905	1-126-052-11	ELECT	100uF	20%	50V
C911	1-126-017-11	ELECT	6800uF	20%	16V
C912	1-126-832-51	ELECT	3300uF	20%	10V
C913	1-162-294-31	CERAMIC	0.001uF	10%	50V
C914	1-126-162-11	ELECT	3.3uF	20%	50V
C915	1-126-024-11	ELECT	220uF	20%	16V
C921	1-124-556-11	ELECT	2200uF	20%	16V
C922	1-126-059-11	ELECT	10uF	20%	50V
C923	1-164-159-21	CERAMIC	0.1uF		50V
C951	1-126-063-11	ELECT	100uF	20%	63V
C952	1-126-059-11	ELECT	10uF	20%	50V
C953	1-126-059-11	ELECT	10uF	20%	50V
C954	1-129-702-00	FILM	0.001uF	5%	630V
C955	1-162-806-11	CERAMIC	0.1uF	10%	50V
C991	1-164-159-21	CERAMIC	0.1uF		50V
⚠C992	1-161-744-00	CERAMIC	0.01uF		400V

< CONNECTOR >

CN301	1-568-838-11	SOCKET, CONNECTOR 21P	
* CN302	1-568-839-11	SOCKET, CONNECTOR 23P	
* CN351	1-568-954-11	PIN, CONNECTOR 5P	
* CN371	1-568-942-11	PIN, CONNECTOR 4P	
* CN471	1-568-854-11	SOCKET, CONNECTOR 11P	
* CN501	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN801	1-568-864-11	SOCKET, CONNECTOR 21P	
CN901	1-691-771-11	PLUG (MICRO CONNECTOR) 9P	
CN902	1-691-767-11	PLUG (MICRO CONNECTOR) 5P	
CN951	1-691-770-11	PLUG (MICRO CONNECTOR) 8P	
⚠CN991	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P	
⚠CN992	1-564-321-00	PIN, CONNECTOR 2P	

< DIODE >

D311	8-719-987-63	DIODE	1N4148M
D351	8-719-109-82	DIODE	RD4.7ESB3
D352	8-719-987-63	DIODE	1N4148M
D801	8-719-303-02	DIODE	SEL2510C-D
D802	8-719-301-52	DIODE	SEL2810A-C
D901	8-719-210-21	DIODE	11EQS04
D902	8-719-210-21	DIODE	11EQS04
D903	8-719-210-21	DIODE	11EQS04
D904	8-719-210-21	DIODE	11EQS04
D911	8-719-210-21	DIODE	11EQS04
D912	8-719-210-21	DIODE	11EQS04
D913	8-719-210-21	DIODE	11EQS04
D914	8-719-210-21	DIODE	11EQS04
D921	8-719-987-63	DIODE	1N4148M
D922	8-719-115-38	DIODE	RD5.1JS-B2
D923	8-719-987-63	DIODE	1N4148M
D924	8-719-987-63	DIODE	1N4148M
D925	8-719-987-63	DIODE	1N4148M
D951	8-719-200-82	DIODE	11ES2
D952	8-719-110-67	DIODE	RD27ESB2
D953	8-719-110-04	DIODE	RD7.5ESB3

< FLUORESCENT INDICATOR >

FLD801	1-519-757-11	INDICATOR TUBE, FLUORESCENT

< IC >

IC301	8-759-334-74	IC	CXD8504AM
IC302	8-759-044-10	IC	CXD2562Q

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
IC351	8-759-822-09	IC LB1641	
IC352	8-749-921-12	IC GP1F32T (DIGITAL OUT, OPTICAL)	
IC371	8-759-962-08	IC BA6208	
IC501	8-759-293-17	IC CXA8042S	
IC502	8-759-900-72	IC NE5532P	
IC503	8-759-900-72	IC NE5532P	
IC551	8-759-981-85	IC RC4556D	
IC601	8-759-293-17	IC CXA8042S	
IC602	8-759-900-72	IC NE5532P	
IC603	8-759-900-72	IC NE5532P	
IC801	8-752-863-44	IC CXP82316-055Q (*1)	
IC801	8-752-868-32	IC CXP82316-069Q (*1)	
IC802	8-749-923-11	IC GP1U58XB	
IC901	8-759-604-86	IC M5F7807	
IC902	8-759-604-90	IC M5F7907L	
IC903	8-759-231-53	IC TA7805S	
IC911	8-759-231-53	IC TA7805S	
IC912	8-759-636-16	IC M51957AL	
IC913	8-759-604-86	IC M5F7807L	
		< JACK >	
J471	1-750-162-61	JACK (LARGE TYPE) (PHONES)	
J501	1-569-443-21	JACK, PIN 4P (LINE OUT, FIXED, VARIABLE)	
		< COIL >	
L311	1-410-322-11	INDUCTOR 3.3uH	
L312	1-410-503-11	INDUCTOR 3.3uH	
L313	1-410-322-11	INDUCTOR 3.3uH	
L314	1-410-322-11	INDUCTOR 3.3uH	
L315	1-410-322-11	INDUCTOR 3.3uH	
L316	1-410-322-11	INDUCTOR 3.3uH	
L351	1-410-322-11	INDUCTOR 3.3uH	
L401	1-410-970-11	INDUCTOR 6.8uH	
L402	1-410-970-11	INDUCTOR 6.8uH	
L471	1-424-122-11	FILTER, NOISE	
L472	1-424-122-11	FILTER, NOISE	
L501	1-412-473-41	INDUCTOR 0uH	
L502	1-412-473-41	INDUCTOR 0uH	
L601	1-412-473-41	INDUCTOR 0uH	
L602	1-412-473-41	INDUCTOR 0uH	
		< TRANSISTOR >	
Q351	8-729-900-61	TRANSISTOR DTA114ES	
Q501	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q551	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q601	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q651	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q801	8-729-900-80	TRANSISTOR DTC114ES	
Q802	8-729-900-80	TRANSISTOR DTC114ES	
Q803	8-729-900-80	TRANSISTOR DTC114ES	
Q951	8-729-140-97	TRANSISTOR 2SB734-34	
		< RESISTOR >	
R301	1-249-415-11	CARBON 680 5% 1/4W	F
R302	1-249-415-11	CARBON 680 5% 1/4W	F
R315	1-249-415-11	CARBON 680 5% 1/4W	F
R316	1-247-815-91	CARBON 220 5% 1/4W	
R318	1-249-441-11	CARBON 100K 5% 1/4W	
R351	1-249-441-11	CARBON 100K 5% 1/4W	
R371	1-249-417-11	CARBON 1K 5% 1/4W	F
R372	1-249-417-11	CARBON 1K 5% 1/4W	F
R401	1-259-452-11	CARBON 10K 5% 1/6W	
R402	1-259-416-11	CARBON 330 5% 1/6W	
R403	1-259-416-11	CARBON 330 5% 1/6W	
R404	1-259-416-11	CARBON 330 5% 1/6W	
R405	1-259-416-11	CARBON 330 5% 1/6W	
R406	1-259-416-11	CARBON 330 5% 1/6W	
R407	1-259-416-11	CARBON 330 5% 1/6W	
R408	1-259-416-11	CARBON 330 5% 1/6W	
R409	1-259-416-11	CARBON 330 5% 1/6W	
R501	1-259-380-11	CARBON 10 5% 1/6W	
R502	1-259-380-11	CARBON 10 5% 1/6W	
R503	1-259-380-11	CARBON 10 5% 1/6W	
R504	1-259-380-11	CARBON 10 5% 1/6W	
R505	1-249-911-11	CARBON 330 1% 1/4W	
R506	1-249-911-11	CARBON 330 1% 1/4W	
R507	1-249-911-11	CARBON 330 1% 1/4W	
R508	1-249-887-11	CARBON 33 1% 1/4W	
R509	1-249-887-11	CARBON 33 1% 1/4W	
R510	1-249-931-11	CARBON 2.2K 1% 1/4W	
R511	1-249-931-11	CARBON 2.2K 1% 1/4W	
R512	1-249-933-11	CARBON 2.7K 1% 1/4W	
R513	1-249-933-11	CARBON 2.7K 1% 1/4W	
R514	1-249-928-11	CARBON 1.6K 5% 1/4W	
R515	1-249-928-11	CARBON 1.6K 5% 1/4W	
R522	1-247-714-11	CARBON 1.2K 5% 1/4W	F
R524	1-247-887-00	CARBON 220K 5% 1/4W	
R525	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R528	1-259-412-11	CARBON 220 5% 1/6W	
R551	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R552	1-249-437-11	CARBON 47K 5% 1/4W	
R553	1-249-431-11	CARBON 15K 5% 1/4W	
R554	1-249-435-11	CARBON 33K 5% 1/4W	
R555	1-249-403-11	CARBON 68 5% 1/4W	F
R556	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R601	1-259-380-11	CARBON 10 5% 1/6W	
R602	1-259-380-11	CARBON 10 5% 1/6W	
R603	1-259-380-11	CARBON 10 5% 1/6W	
R604	1-259-380-11	CARBON 10 5% 1/6W	
R605	1-249-911-11	CARBON 330 1% 1/4W	

*1: There are some changes in the schematic diagram and the printed wiring board. (Refer to page 3 for details)

Ref. No.	Part No.	Description				Remark
R606	1-249-911-11	CARBON	330	1%	1/4W	
R607	1-249-911-11	CARBON	330	1%	1/4W	
R608	1-249-887-11	CARBON	33	1%	1/4W	
R609	1-249-887-11	CARBON	33	1%	1/4W	
R610	1-249-931-11	CARBON	2.2K	1%	1/4W	
R611	1-249-931-11	CARBON	2.2K	1%	1/4W	
R612	1-249-933-11	CARBON	2.7K	1%	1/4W	
R613	1-249-933-11	CARBON	2.7K	1%	1/4W	
R614	1-249-928-11	CARBON	1.6K	5%	1/4W	
R615	1-249-928-11	CARBON	1.6K	5%	1/4W	
R622	1-247-714-11	CARBON	1.2K	5%	1/4W	F
R624	1-247-887-00	CARBON	220K	5%	1/4W	
R625	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R628	1-259-412-11	CARBON	220	5%	1/6W	
R651	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R652	1-249-437-11	CARBON	47K	5%	1/4W	
R653	1-249-431-11	CARBON	15K	5%	1/4W	
R654	1-249-435-11	CARBON	33K	5%	1/4W	
R655	1-249-403-11	CARBON	68	5%	1/4W	F
R656	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R801	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R802	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R803	1-249-441-11	CARBON	100K	5%	1/4W	
R804	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R805	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R806	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R807	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R808	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R809	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R810	1-249-415-11	CARBON	680	5%	1/4W	F
R811	1-249-417-11	CARBON	1K	5%	1/4W	F
R812	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R813	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R814	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R815	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R816	1-249-431-11	CARBON	15K	5%	1/4W	
R817	1-249-415-11	CARBON	680	5%	1/4W	F
R818	1-249-417-11	CARBON	1K	5%	1/4W	F
R819	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R820	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R821	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R822	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R823	1-249-431-11	CARBON	15K	5%	1/4W	
R824	1-249-415-11	CARBON	680	5%	1/4W	F
R825	1-249-417-11	CARBON	1K	5%	1/4W	F
R826	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R827	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R828	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R829	1-249-415-11	CARBON	680	5%	1/4W	F
R830	1-249-417-11	CARBON	1K	5%	1/4W	F
R831	1-249-415-11	CARBON	680	5%	1/4W	F
R832	1-249-415-11	CARBON	680	5%	1/4W	F
R833	1-249-406-11	CARBON	120	5%	1/4W	F
R834	1-249-410-11	CARBON	270	5%	1/4W	F
R911	1-249-436-11	CARBON	39K	5%	1/4W	
R912	1-249-431-11	CARBON	15K	5%	1/4W	
R913	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R921	1-249-413-11	CARBON	470	5%	1/4W	F
R922	1-249-417-11	CARBON	1K	5%	1/4W	F
R951	1-212-869-00	FUSIBLE	33	5%	1/4W	F
R952	1-249-429-11	CARBON	10K	5%	1/4W	
R953	1-249-435-11	CARBON	33K	5%	1/4W	

< VARIABLE RESISTOR >

RV471	1-223-747-11	RES, VAR, CARBON 10K/10K (LINE OUT, PHONE LEVEL)

< SWITCH >

S801	1-554-303-21	SWITCH, TACTILE (1)
S802	1-554-303-21	SWITCH, TACTILE (2)
S803	1-554-303-21	SWITCH, TACTILE (3)
S804	1-554-303-21	SWITCH, TACTILE (4)
S805	1-554-303-21	SWITCH, TACTILE (5)
S806	1-554-303-21	SWITCH, TACTILE (PLAY MODE)
S807	1-554-303-21	SWITCH, TACTILE (REPEAT)
S808	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)
S809	1-554-303-21	SWITCH, TACTILE (6)
S810	1-554-303-21	SWITCH, TACTILE (7)
S811	1-554-303-21	SWITCH, TACTILE (8)
S812	1-554-303-21	SWITCH, TACTILE (9)
S813	1-554-303-21	SWITCH, TACTILE (10)
S814	1-554-303-21	SWITCH, TACTILE (CHECK)
S815	1-554-303-21	SWITCH, TACTILE (CLEAR)
S816	1-554-303-21	SWITCH, TACTILE (<12)
S817	1-554-303-21	SWITCH, TACTILE (11)
S818	1-554-303-21	SWITCH, TACTILE (12)
S819	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)
S820	1-554-303-21	SWITCH, TACTILE (▶)
S821	1-554-303-21	SWITCH, TACTILE (❚❚)
S822	1-554-303-21	SWITCH, TACTILE (■)
S823	1-554-303-21	SWITCH, TACTILE (TIME)
S824	1-554-303-21	SWITCH, TACTILE (PEAK SEARCH)
S825	1-554-303-21	SWITCH, TACTILE (AUTO SPACE)
S826	1-554-303-21	SWITCH, TACTILE (▷▷| AMS)
S827	1-554-303-21	SWITCH, TACTILE (|◁◁ AMS)
S828	1-554-303-21	SWITCH, TACTILE (▶▶)
S829	1-554-303-21	SWITCH, TACTILE (◀◀)
S991	1-572-267-51	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)

Ref. No.	Part No.	Description	Remark
		< TRANSFORMER >	
⚠T991	1-427-938-11	TRANSFORMER, POWER (EXCEPT E)	
		< VIBRATOR >	
X401	1-579-161-11	VIBRATOR, CRYSTAL (45MHz)	
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	
**********			
*	1-657-094-11	TRANS BOARD (E)	
		**********	
		< CAPACITOR >	
C991	1-164-159-21	CERAMIC 0.1uF	50V
		< CONNECTOR >	
CN991	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P	
CN992	1-564-321-00	PIN, CONNECTOR 2P	
		< SWITCH >	
⚠S992	1-571-722-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E)	
		< TRANSFORMER >	
⚠T991	1-427-997-11	TRANSFORMER, POWER (E)	
**********			
		MISCELLANEOUS	
		**********	
⚠10	1-558-181-21	CORD, POWER (E)	
⚠10	1-558-568-21	CORD, POWER (AEP, G)	
⚠10	1-696-571-11	CORD, POWER (UK)	
⚠10	1-696-845-11	CORD, POWER (AUS)	
17	1-696-998-11	WIRE (FLAT TYPE) (23 CORE)	
71	1-775-349-11	WIRE (FLAT TYPE) (21 CORE)	
73	1-696-995-11	WIRE (FLAT TYPE) (11 CORE)	
* 113	1-452-538-11	MAGNET	
⚠151	8-848-367-11	OPTICAL PICK-UP BLOCK KSS-213B/K-N	
152	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
J471	1-750-162-61	JACK (LARGE TYPE)	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
RV471	1-223-747-11	RES, VAR, CARBON 10K/10K	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)	
⚠T991	1-427-938-11	TRANSFORMER, POWER (EXCEPT E)	
⚠T991	1-427-997-11	TRANSFORMER, POWER (E)	

Ref. No.	Part No.	Description	Remark
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-473-125-11	REMOTE COMMANDER (RM-D820)	
	1-558-271-11	CORD, CONNECTION (AUDIO 108cm)	
	1-590-925-31	CORD, CONNECTION (AUDIO 100cm)	
	3-798-297-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE)	
	3-798-297-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN, PORTUGUESE)	(AEP, G)
*	4-955-666-11	CUSHION	
	4-962-615-01	COVER, BATTERY (for RM-D820)	
*	4-977-007-01	INDIVIDUAL CARTON (AEP, E, G)	
*	4-977-008-01	INDIVIDUAL CARTON (AUS, UK)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-682-547-09	SCREW +BVTT 3X6 (S)	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-682-565-09	SCREW +BVTT 4X16 (S)	
#4	7-621-255-15	SCREW +P 2X3	
#5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#6	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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Home A&V Products Div.

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CDP-XA2ES

SONY
SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

SUPPLEMENT-1

Subject : GOLD MODEL ADDITION

(ENG-96009)

The Gold model is added.
In this SUPPLEMENT-1, only the differences compared with the Black model are mentioned.
As for not mentioned in this manual, refer to the previous issued service manual.

Page	Ref No.	Black model			Gold model		
		Part No.	Description	Remark	Part No.	Description	Remark
			*** EXPLODED VIEWS ***			*** EXPLODED VIEWS ***	
28	1	4-969-469-01	CASE		4-969-469-21	CASE	
	2	3-704-366-01	SCREW (CASE) (M3X8)		3-704-366-71	SCREW (CASE)	
	13	4-974-258-01	PANEL, LOADING		4-974-258-11	PANEL, LOADING	
29	51	4-923-520-51	KNOB, POWER		4-923-520-41	KNOB, POWER	
	57	4-970-528-01	BUTTON (F.R)		4-970-528-11	BUTTON (F.R)	
	58	4-969-562-01	BUTTON (AMS)		4-969-562-11	BUTTON (AMS)	
	59	4-950-189-01	KNOB (A) (VOL)		4-950-189-11	KNOB (A) (VOL)	
	60	4-970-527-01	BUTTON (TIME)		4-970-527-11	BUTTON (TIME)	
	61	4-969-470-01	PANEL (L)		4-969-470-11	PANEL (L)	
	62	4-974-254-01	PANEL (M)		4-974-254-11	PANEL (M)	
	64	4-974-253-11	PANEL, FRONT		4-974-253-21	PANEL, FRONT	
	67	4-969-475-01	BUTTON (DIRECT)		4-969-475-11	BUTTON (DIRECT)	
	68	X-4945-276-1	BUTTON (PLAY) ASSY		X-4945-311-1	BUTTON (PLAY) ASSY	
	69	4-969-471-11	PANEL (R)		4-969-471-21	PANEL (R)	
	74	4-942-568-01	EMBLEM (NO.5), SONY		4-942-568-21	EMBLEM (NO.5), SONY	

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